

# ORGANIZATIONAL USE AND ADOPTION OF SOCIAL MEDIA THROUGH TOE FRAMEWORK: EMPIRICAL RESEARCH ON CROATIAN SMALL AND MEDIUM-SIZED ENTERPRISES

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**ABSTRACT** The increasing importance of social media as a communication and marketing tool is reshaping how companies engage with their customers. Despite its numerous advantages, the social media adoption rate remains low among small and medium-sized enterprises (SMEs) in Croatia. Therefore, this study aims to recognize the primary elements that affect the acceptance of social media by small and medium-sized enterprises (SMEs). The research observes social media as a technological innovation and investigates its implementation within Croatia, a developing country. Using the TOE model as a guiding theoretical framework, a comprehensive agenda examines social media adoption within the technological, organizational, and environmental contexts in which SMEs operate. The research relies on an empirical analysis conducted on 86 surveyed SMEs. By applying the PLS-SEM method, the results showed that the technological and environmental contexts, as higher-order constructs, positively and significantly influence the adoption of social media in Croatian SMEs. The study is important because it contributes to the body of knowledge on social media adoption in developing countries and guides key personnel in SMEs in adopting social media in their organizations.

**KEYWORDS:** *managers, social media adoption, TOE framework, small and medium-sized enterprises, developing countries, Croatia*

## 1. INTRODUCTION

Social media (SM) is becoming an important communication channel in personal and business settings (Sedalo et al., 2022). It has revolutionized how businesses communicate with and advertise to their customers (Ali Abbassi et al., 2022). For numerous companies, social media has emerged as the primary and most crucial channel for effectively positioning their products or services. For this reason, a presence in cyberspace is now as important as any other aspect of a company's business strategy (Qalati et al., 2021a). So-

cial media offers numerous advantages, such as enhancing profitability, fostering innovation in products and services, and facilitating access to new markets (Ramdani et al., 2021), which helps increase brand awareness and build positive relationships with business partners (Sedalo, 2022). It also serves as a fast, convenient, and cost-effective method to engage with customers. This positions SM as an ideal channel of communication for small and medium-sized enterprises (SMEs) since they are constrained with operational and organizational resources (Yuliarimi et al., 2021) and tend to invest cautiously in new business

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opportunities and technologies (Rickard, 2021).

Recent studies reveal a growing trend of social media integration within companies across the European Union (Eurostat, 2022). In 2019, 47.6% of SMEs used social media, compared to 76.9% of large enterprises (European Commission, 2021). In 2021, over 80% of large companies incorporated at least one form of social media into their operations, while the adoption rate among SMEs stood at 56%. (Eurostat, 2022). This increase in social media usage is, to a large extent, an outcome of the COVID-19 pandemic, which accelerated the digitalization processes within numerous SMEs (Vide et al., 2022) and brought transformative changes to the business environment that made social media the "new normal" (Deloitte, 2022). During periods of major closures and lockdowns, social media emerged as the primary communication tool for most enterprises to connect with their customers (Spenner & Siegfried, 2021).

On the other hand, this reliance on technology and digital solutions occurred under tremendous time pressures that were difficult for some SMEs to manage (Priyono et al., 2020), and the challenges have only transferred to the new post-pandemic business environment (Deloitte, 2022). Implementing social media for business requires various skills and knowledge, such as planning, creating and scheduling content, allocating budget, measuring ROI, reading and interpreting campaign metrics, etc. (Digital Marketing Institute, 2021). In addition, for certain SM platforms, specially developed tools handle page management for business purposes. One example is the Meta Business Suite, which allows page administrators to manage Facebook pages, Instagram accounts, and Messenger interactions on the same platform (Meta, 2022). Unlike large companies that manage social media within their marketing departments or outsource to an experienced external agency, most SMEs face constraints when it comes to their human and financial capabilities which hinders their ability to effectively manage social media campaigns, resulting in a lack of strategy (Spenner & Siegfried, 2021). For this reason, many SMEs are hesitant to open their SM accounts despite the numerous benefits.

Even though an extensive body of research was conducted on SM to examine their effect on diverse business operations, the ever-changing nature of social media, coupled with the constant emergence of new platforms and the evolution of existing ones, leads to a continuous emergence of new studies focusing on their implementation (Appel et al., 2020). As previous research findings indicate that SMEs do not perceive social media as a shaping success factor (Spenner & Siegfried, 2021), numerous scholars are encouraging further research on SM determinants in

the SME domain, particularly for the ones operating in developing countries (Jones, 2010; Derham et al., 2011; Bocconcelli et al., 2017, Qalati et al., 2020).

Previous research on SMEs' use of social media in emerging markets has largely been conducted in the Asian context (Pan & Jang, 2008; Ainin et al., 2015; Sugandini et al., 2019; Effendi et al., 2020; Qalati et al., 2020; Pervin & Sarker, 2021; Samsudeen, 2021) or in the South African context (Matikiti et al., 2018). Due to the socio-cultural, economic, environmental, technological, political, and other differences between these regions, there is a need to observe this phenomenon in European settings (Gibbs et al., 2003). Moreover, most research in Europe has been performed in developed markets such as Ireland (Durkin et al., 2013), Germany (Meske & Stieglitz, 2013), Slovakia (Pollák & Dorcák, 2016), and Greece (Pateli et al., 2020). SMEs in emerging economies operate under different conditions than those in developed countries and face the challenges of economic change, globalization trends, and increased competition. They also face lower investments in innovation and receive less government support (Qalati et al., 2021b).

As a developing country, Croatia also experiences several challenges in its business environment that need to be improved, especially in terms of digital transformation (European Commission, 2022a). In 2022, Croatia ranked 21st (EU-27) in the Digital Economy and Social Index (DESI), indicating a constant need for ICT professionals, which has a particular impact on the implementation of technological and other digital solutions in companies. According to the same study, SMEs are strongly affected by this problem, as the lack of integration of digital technologies prevents them from achieving their fullest potential and realizing business success. The same study reveals that digital intensity (the application of diverse technological tools and solutions in the organization) is at the basic level of 50% for Croatian SMEs, which is lower than the EU average of 55%. And although Croatian SMEs are slightly above the EU average in the use of advanced technologies (cloud solutions, AI technologies, e-invoices), the utilization of social media remains relatively low, standing at only 24%, and has shown minimal growth since 2019 when it was recorded at 22% (European Commission, 2022a). Building upon the aforementioned survey results, this study aims to identify the determining factors of social media adoption within SMEs in Croatia. The study then positions these elements within the attributes of the technology itself, the organizational aspects, and the external environment in which SMEs operate. By doing so, it aims to offer a comprehensive understanding of the elements SMEs perceive as essential for SM implementation within their organizations.

The paper is organized as follows: first, the explanation of social media and its significance for SMEs is presented. Then, the TOE framework is introduced to better comprehend social media adoption and to justify the formulation of the hypotheses. Section 3 explains in detail the methodology, while Section 4 encompasses the results of the descriptive statistics and empirical analysis. A discussion follows that examines the findings and demonstrates their main contributions. The conclusion systemizes the paper's key points and offers recommendations for future research.

## 2. LITERATURE REVIEW

### 2.1. The importance of social media for SMEs

Small and medium-sized enterprises are important for the country's economic development and growth (Morić Milovanović & Cvjetković, 2021). In 2020, a total of 138,618 SMEs were operating in Croatia, representing a share of 99,7% of the overall number of enterprises (CEPOR, 2022). The situation is similar in the EU, where SMEs constitute more than 99% of all companies, have a major impact on gross domestic income, and create new jobs on a large scale (European Commission, 2022b). They are known for their innovativeness, proactivity and resilience. At the same time, they face numerous challenges as they operate in a globalized market characterized by fierce competition, market uncertainty, and fluctuations in demand (Costa et al., 2021). To overcome these constraints, they often use their networking capabilities to develop innovative products and services. In doing so, they use information and communication (ICT) and other digital technologies that allow them to maintain their competitive advantage and build lasting relationships with their customers (Bocconcelli et al., 2017).

Many SMEs owe their business success to social media (Trawnih et al., 2021). Through their presence on social media, businesses can achieve traditional goals in non-traditional ways: through original content, community engagement, and relationship building (Rugova & Prena, 2016). The utilization of social media can also upgrade various aspects of SME performance, including growth and profitability (Ainin et al, 2015; Qalati et al, 2021b). However, to fully realize the value of SM and reap the benefits of such a communication and marketing tool, it is important to strategically plan its use (Spenner & Siegfried, 2021).

Many companies tend to associate social media primarily with social networks and may overlook the broader range of dimensions and possibilities they offer. Because of their nature, which is constantly

changing and evolving, they are often referred to as "digital Swiss army knife" which is why there are few formally accepted definitions of social media (Nau et al., 2022). The SAGE Handbook of Social Media Research Methods defines it as "web-based and mobile services that allow individuals, communities, and organizations to collaborate, connect, interact, and build community by enabling them to create, co-create, modify, share, and engage with content (user or bot-generated)" (Nau et al., 2022, p. 15), meaning that they encompass more than just social networks and include "blogs, business networks, collaborative projects, enterprise social networks, forums, microblogs, photo sharing, product/services reviews, social bookmarking, social gaming, video sharing and virtual worlds" (Aichner & Jacob, 2015, p. 258). The incredible attention and exposure of social media in today's society has created an entirely new communication landscape (Kietzmann et al., 2011) and has become part of a paradigm shift where companies interact intensively with their consumers (Eurostat, 2020). The role of customers as listeners/viewers who merely absorbed information has been replaced by an active and responsive audience that provides feedback (Nau et al., 2022). Their words have power and can influence brand value and image, company reputation, product loyalty, and company financial results.

The results of research conducted by GWI (2022), the audience-targeting company for the global marketing industry show that, on average, individuals dedicate approximately 2 hours and 26 minutes per day to social media. Moreover, a growing number of users engage with social media with commercial intentions in mind, such as researching products or making online purchases. Facebook stands as the most widely-used social network, attracting more than 2.9 billion monthly active users (Statista, 2022). As the number of mobile device users in underdeveloped markets continues to grow, these figures are anticipated to rise even further.

### 2.2. The Technology-Organization-Environment (TOE) framework

Scholars have always been interested in how people and organizations are influenced and changed by innovations in information and communication technologies (Shaikh & Karjaluoto, 2015). Innovation can be understood as a concept, process, or object that is novel to others, and it encompasses the concepts of adoption and implementation (Pateli et al., 2020). Various frameworks have been suggested to explain and understand the desire to adopt a particular innovation, such as the Diffusion of Innovations (1962), the Theory of Planned Behavior (1991), the Unified

Theory of Acceptance and Use of Technology (2003), etc. (Bryan & Zuva, 2021). Two prominent models that deal with the implementation of digital technologies are the Technology Acceptance Model (TAM) and the Technology-Organization-Environment (TOE) model. The TAM, established in 1986, focuses on individual-level adoption of technology. In contrast, the TOE model, established in 1990, delves into the adoption of technological advancements in organizational settings (Cho et al., 2021), where technology is perceived as a tool that aids an organization in its operational activities. This perspective encompasses both technological inputs and organizational aspects (Ren, 2019). Organizational adoption can occur at various organizational levels, such as the team level, the business department, or the entire organizational unit (Pateli et al., 2020). A new technology involves a change in organizational work processes but is adopted because it is expected to improve performance (Ren, 2019).

As the aim of this study is to observe the elements that contribute to the adoption of social media at the level of organization, the conceptual framework is grounded in the Technology-Organization-Environment (TOE) model introduced by Tornatzky and Fleischer (1990). When the authors proposed the model, they were interested in identifying the factors that motivate organizations to become "real users" of innovations (Tornatzky & Fleischer, 1990, p.151). The model observes factors that encourage the adoption of technological innovations through the intertwined spheres of technological, organizational, and environmental factors (Ali Abbasi et al., 2021). Technological aspects encompass organizational internal and external technological setups, while the organizational context considers the mechanisms and factors within the organization itself that are significant for technology adoption (Stjepić et al., 2021). Environmental factors entail all the features of the external market environment.

The TOE model builds on the DOI theory, which also observes the organizational adoption of innovations (Oliveira & Martins, 2011). The internal and external elements of the DOI model are parallel to the technological and organizational contexts in the TOE framework. However, the TOE model includes an additional element observed through environmental context, which is also important in influencing technological adoption within an organization (Oliveira & Martins, 2011). Although the TOE context views an innovation through a broader picture that includes a variety of elements, it has often been criticized for this very reason that the constructs of the model are not well defined or that the variables within the three constructs are not concise, which means they can be

interpreted differently in different settings (Bryand & Zuva, 2021).

The TOE framework has gained extensive usage in examining the organizational-level adoption of SM within SMEs (Wamba and Carter, 2016; Matikiti et al., 2018; Pateli et al., 2020; Qalati et al., 2020; Samsudeen et al., 2021), with authors using slightly different elements to test its influence. However, the findings and conclusions of prior studies cannot be directly applied to the Croatian context since the contribution of TOE factors can oscillate depending on various elements, including geographical location (Ali Abbasi et al., 2021). For that reason, this study aims to define the elements that drive SM adoption in SMEs in Croatia, using the TOE concept as a guiding theoretical framework.

### 2.3. Hypothesis development

The TOE framework presented in the previous section was chosen due to its strong theoretical foundation, well-established empirical support, and the ability to comprehensively explain adoption across many elements (Oliveira & Martins, 2011). As it stands out as the sole framework that broadly considers environmental factors (AlSharji et al., 2018), the researcher can observe not only the technical aspects of the innovation but also its intrinsic characteristics (Oliveira & Martins, 2011). The analysis of existing literature demonstrates and confirms that several elements of the TOE model have beneficial effects on SM adoption, such as cost-effectiveness from the technological context (Ali Abbasi et al., 2021), top management support (Pateli et al., 2020; Ali Abbasi et al., 2021), and technological competence (Ur Rahman et al., 2020) from the organizational context, or bandwagon effect that forms the environmental context (Ahmad et al., 2018; Qalati et al., 2021b). The selection of elements observed in this study was based on the identified research gap and the expressed necessity for additional studies to make conclusions specific to SMEs in developing countries, while also considering the most common characteristics of social media. As SMEs in Croatia showed a low adoption rate of social media, the organizational factors comprised organizational readiness and the importance of internal communication in facilitating the adoption of social media platforms.

### 2.4. Technological context and social media adoption

The technological context incorporates all the technologies suitable for the company, including both the technologies already in use and those that are avail-

able but not yet implemented (Qalati, 2020). Technologies that are already in use influence adoption by setting the scope and pace of technological innovation, while those that are available (but not currently in use) influence adoption decisions by demonstrating how the technology can advance a company's processes. Several elements from the technological context impact a decision to implement social media (Tornatzky & Fleischer, 1990). Based on previous studies on SM adoption (Abed, 2020; Effendi et al., 2020; Pateli et al., 2020; Qalati et al., 2020; Samsudeen et al., 2020), this study aims to identify the specific characteristics of innovation that are essential for adoption within organizational contexts: relative advantage, observability, and interactivity. Accordingly, the formulation of the first hypothesis is as follows:

*H1: Technological context positively affects social media adoption.*

### 2.3.1. Relative advantage

Relative advantage is observed as a range to which an innovation provides greater benefits in comparison to its alternatives (Pateli et al., 2020). The introduction of SM into an organization brings about a relative advantage in terms of improved communication, larger audience reach and knowledge sharing, which, in turn, has the potential to boost the overall performance of the organization (Qalati et al., 2020). The importance of relative advantage for the adoption of innovation has been supported by numerous studies conducted in the field (Chong & Olesen, 2001; Ahmad et al, 2018; AlSharji et al, 2018; Effendi et al, 2020; Pervin & Sarker, 2021). Therefore, another hypothesis is formulated:

*H1a: Relative advantage of social media positively affects social media adoption.*

### 2.3.2. Observability

The observability element includes the visible outcomes of introducing the innovation. This means that organizations can actually see that the introduced innovation has brought improvements (Ahmad et al., 2018). When organizations comprehend that implementing social media yields successful outcomes, it instills them with greater confidence in applying and utilizing the platforms (Samsudeen et al., 2021). Numerous studies have extensively investigated and tested this specific element, affirming its favorable impact on the acceptance of innovations (Ahmad et al., 2018; Tripopsakul, 2018; Samsudeen, 2021). This leads to another hypothesis:

*H1b: Observability element of social media positively affects social media adoption.*

### 2.3.3. Interactivity

Interactivity refers to the interaction of parties through a communication medium (Qalati et al., 2020). Successful interaction between individuals and technology is believed to promote the adoption of innovations (Ainin et al., 2015). Interactivity also influences users' experiences and reactions to new technologies. As social media facilitates the exchange of information in both directions (two-way communication), interactivity is very important for its adoption, which has also been demonstrated in several studies (Ainin et al, 2015; Odoom et al, 2017). Therefore, the formulation of the next hypothesis is as follows:

*H1c: The interactivity element of social media positively affects social media adoption.*

### 2.3.4. Organizational Context and Social media adoption

The organizational context comprises the company's characteristics and possessions, including its size and structure, internal communications, and any available resources (Baker, 2011) that may impact the implementation of innovation at the organizational level (Abed, 2020). This study places attention on two elements: internal communication and organizational readiness. The second hypothesis is formulated as follows:

*H2: Organizational context positively affects social media adoption.*

### 2.3.5. The internal communication

Internal communication promotes the development of innovative ideas and the sharing of knowledge (Brandyberry, 2003). Enabling a free flow of information can significantly contribute to the successful adoption of new technologies (Baker, 2011). Open and flexible internal communication is the key element to facilitating innovation (García Morales et al., 2011), which has been demonstrated in several studies on innovation adoption (Brandyberry, 2003; Matikiti et al., 2018). Therefore, a new hypothesis follows:

*H2a: Internal communication positively affects social media adoption.*

### 2.3.6. The organizational readiness

The ability to reap all the benefits of social media depends on the organization's readiness to engage not only with the new solutions, but also with all the challenges and risks associated with them (Abeyasinghe & Alsobhi, 2013). Organizational readiness is observed as the presence of technical and economic resources necessary for embracing innovations (Abed, 2020), which has been demonstrated in several studies (Scupola, 2003; Fathian et al., 2008; Abed, 2020). The indicated leads to another hypothesis:

*H2b: Organizational readiness positively affects social media adoption.*

## 2.5. Environmental context and social media adoption

The environmental context encompasses elements such as industry and market structure, regulatory constraints, and the availability of technology service providers (Baker, 2011). This study specifically examines two elements from the environmental context: consumer pressure and competition pressure. As a result, the third hypothesis is proposed:

*H3: Environmental context positively affects social media adoption.*

### 2.5.1. Consumer pressure

Consumer pressure is perceived as an important element of the organization's external environment that influences many organizational aspects, including the adoption of innovation (Abed, 2020; Pervin & Sarker, 2021). The interactive nature of SM enables customers to voice their opinions and actively influence the enhancements in the existing processes, or the generation of new products or services (Shaltoni, 2017), which leads to another hypothesis:

*H3a: Consumer pressure positively affects social media adoption.*

### 2.5.2. Competition pressure

Competitive pressure is characterized as the level of competition prevailing inside an industry (AlSharji, 2018). In highly competitive markets, companies often experience innovation pressures, striving to increase their competitive edge. This can result in a greater propensity to accept new technologies (Shaltoni, 2017) or to adapt to new technological benchmarks (Zhu et al., 2003). Therefore, the final hypothesis is:

*H3b: Competition pressure positively affects social media adoption.*

## 3. METHODS

### 3.1. Research design

To test the proposed hypotheses, a survey method was chosen as part of the quantitative approach. The sample of the study included SMEs operating in Croatia. A random sample was selected from the directory of the Finiinfo portal (El koncept d.o.o., 2022), which provides business information about Croatian companies. Before sending the survey, each company was double-checked to see if it fell into the SME category defined in the Croatian guidelines (Croatian Chamber of Economy, 2013). The method was conducted using an online questionnaire created in Google Forms that contained closed-ended questions. Online surveys are an efficient tool for data collection easily and cost-effectively (Qalati, 2021b). Detailed survey information was provided to participants. They were also assured that their responses would be kept anonymous. This was part of the ex-ante research strategy to eliminate common method biases from the outset (Chang et al., 2001; Pateli et al., 2020).

The questionnaire was sent to approximately 900 e-mail addresses. Data collection began in June 2022 and lasted for three weeks. Due to the initial low response rate, two follow-up e-mails were sent to which 87 responses were received. Eighty-six questionnaires were completed, with a response rate of 9.55%. The low response rate was to be expected, as surveys sent via e-mail typically have lower response rates than traditional surveys (Cook et al., 2000), with particularly low response rates when sent to small business owners (Dennis Jr., 2003). During the development of the questionnaire, careful consideration was given to evaluating its characteristics to ensure face, content, construct, and criterion validity and reliability (Taherdoost, 2016).

### 3.2. Measures

The questionnaire had two parts. The first part comprised demographic questions, followed by three additional questions designed to explore in detail the current use of social media in SMEs. The formulation of the questions drew upon prior studies conducted in the field: reasons for using social media (Pentina et al., 2012), barriers to using other social media features (Meske & Stieglitz, 2013; Rugova & Prenaj, 2016), and a question about the type of content SMEs post most often, which was designed by the author of this study.

The first part of the questionnaire ended with three questions designed to measure a dependent variable: social media adoption. The second part of the questionnaire contained questions about independent variables, measured by multiple items. Each construct was measured with three items to ensure reliability (Ahmad et al., 2018). A seven-point Likert scale was used, with responses ranging from 1 (strongly disagree) to 7 (strongly agree).

The dependent variable, social media adoption (SMA), was developed as a composite variable based on previously validated scales used in similar research (AlSharji et al., 2018; Pateli et al., 2020) and adjusted as needed to fit the subject of the study. To represent its different dimensions, three variables were included: (1) the number of social media used by SMEs, (2) the extent of use, and (3) the hours spent per day on social media platforms. The Cronbach's alpha for SMA is 0.70.

Technological context as a higher-order construct was measured by three lower-order constructs: (1) Relative Advantage (RA) as a three-item construct ( $\alpha = 0.92$ ) was based on the scale of Ahmad et al. (2018); (2) Observability (OBS) as a three-item construct ( $\alpha = 0.89$ ) was developed based on the scale of Ahmad et al. (2018); and (3) Interactivity (INT), as a three-item construct ( $\alpha = 0.90$ ) was developed based on the scale of Ainin et al. (2015). Examples of the statements include: "Social media provides new opportunities for our company" (RA), "We can measure the results of using social media" (OBS), and "Social media offers opportunities for greater customer engagement through interactive communication" (INT).

Organizational Context, as two lower-order constructs, measured a higher-order construct. Internal communication (COMM), as a three-item construct ( $\alpha = 0.84$ ), was developed based on Gruning et al. (2012) scale, and Organizational Readiness (OR), as a three-item construct ( $\alpha = 0.76$ ) was developed based on Abed's (2020) scale. Examples of the statements include "If there are major changes in my work tasks, I will be informed about it in time" (COMM) and "We have a good Internet connection" (OR).

Environmental Context, as a higher-order construct, was measured with two lower-order constructs: (1) Consumer Pressure (CONS) as a three-item construct ( $\alpha = 0.85$ ) was developed based on Abed's (2020) scale, and (2) Competitive Pressure (COMPT) as a three-item construct ( $\alpha = 0.92$ ) was developed based on AlSharji et al. (2018) scale. Examples of the statements include "Many of our clients want us to open the profiles on social media" (CONS) and "Social media gives our company a greater competitive advantage" (COMPT).

## 4. RESULTS

### 4.1. Descriptive statistics

Table 1 summarizes descriptive information about the 86 respondents, 46.5% of whom are female and 53.5% of whom are male. The majority of respondents hold a management position (89.5%), are younger than 51 years old (67.7%), and have a university or postgraduate degree (67.4%). The sample of companies represents a wide range of business sectors, from manufacturing, construction, and trade to service sectors such as communications, hospitality, financial services, and other services. The percentages correspond to the general percentage of these businesses in the country (Croatian Bureau of Statistics, 2021), which shows that the sample accurately represents SMEs in Croatia.

Regarding the utilization of social media, the survey discovered that the majority of SMEs employ multiple platforms (76%), with Facebook being the most used (36%), followed by Instagram (21.7%), LinkedIn (14.3%), YouTube (12%) and Google+ (9.7%). Most SMEs have been on social media for more than two years, i.e., 29% have profiles between 2 and 5 years, and 45.3% have been on social media for more than five years. Despite their long presence on SM, the results of the questionnaire show that their use is still minimal (31.4%), basic (34.9%), or moderate (30.2%). This is consistent with the number of hours they spend on social media daily, mostly less than 1 hour (65.1%) or between 1 and 2 hours per day (23.3%). About 2.3% of respondents spend 4-5 hours daily on social media, while 3.5% spend more than 5 hours.

When asked about their reasons for using social media, most SMEs responded that they use it to better reach their customers and clients (62%), to introduce new products or services (50.6%), to increase sales (44.8%), for faster communication with customers/clients (44.8%), and to maintain a better relationship with their customers (43.7%). Other reasons include entering new markets (35.6%), reducing advertising costs (33.3%), and increasing product awareness (26.4%). 25.3% of SMEs use social media because everyone else does, and 4.6% have introduced SM to be the first on the market.

The type of content most frequently published by SMEs can be categorized as informative (70.6%), sales-related (54.1%), entertaining (14.1%), educational (12.9%), and inspirational (8.2%). Since most SMEs responded to basic usage of social media and the small amount of time they spend on the platforms, asking about the barriers to adopting more social media features could explain these results. Most SMEs do not use all functions for several reasons. The most

**TABLE 1.** Demographic profile of the respondents

CONSTRUCT	CHARACTERISTICS	FREQUENCY	PERCENT
Gender	Female	40	46.5
	Male	46	53.5
Age	25-30	6	7
	31-40	33	38.4
	41-50	19	22
	51-60	22	25.6
	61+	6	7
Education	Elementary	1	1.2
	High school	27	31.4
	University	48	55.8
	Postgraduate	10	11.6
Position in the company	Owner	30	34.9
	Director	29	33.7
	Manager	18	20.9
	Administrative	9	10.5
Industry Sector	Production	11	12.8
	Construction	11	12.8
	Trade (wholesale/retail)	25	29.1
	Communication services	5	5.8
	Hospitality services	5	5.8
	Transportation services	3	3.6
	Financial services	5	5.8
	Other services	21	24.3
Social media platforms used	LinkedIn	25	14.3
	Facebook	63	36
	Twitter	5	2.9
	Instagram	38	21.7
	YouTube	21	12
	Google+	17	9.7
	Pinterest	3	1.7
	Blog	3	1.7

Source: Author



important reason is the lack of employees who could spend more time on social media (54%). Other reasons include a lack of financial resources for additional investments in SM (23%), lack of interest in social media at the corporate level (21.8%), unqualified employees (13.8%), or legal problems (9.2%).

**4.2. Empirical analysis**

Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed as the analytical method to test the model designed in this study. The SmartPLS 3 software was utilized to perform the analysis. The PLS method follows two phases in analyzing the results and consists of (1) evaluating the measurement model and (2) evaluating the structural model (Henseler et al., 2012). Detailed explanations of each model are provided in the following sections.

**4.2.1. Assessment of the measurement model**

To test the hypotheses, a higher-order (or hierarchical component) model was created (Hair et al., 2017). The model presented in this study consists of lower-order reflective components that act as formative indicators of higher-order variables, which in this case are technological, organizational, and environmental contexts. To test higher-order constructs, a disjoint two-stage approach was used (Sarstedt et al., 2019). In the first step, the lower-order constructs that make up the reflective measurement model were assessed using composite reliability, indicator reliability, convergent reliability, and discriminant validity (Henseler et al., 2012). The results are presented in Tables 2, 3, and 4. They are all within acceptable values: indicator reliability (measured by outer loadings) and composite reliability are above 0.7, while convergent validity

**TABLE 2.** Model evaluation measurements

Constructs	Items	Outer loadings	Cronbach Alpha	Comp. Real. (CR)	AVE
Relative Advantage	RA1	0.919	0.929	0.955	0.875
	RA2	0.933			
	RA3	0.955			
Observability	OBS1	0.931	0.895	0.935	0.827
	OBS2	0.918			
	OBS3	0.880			
Interactivity	INT1	0.909	0.908	0.942	0.843
	INT2	0.924			
	INT3	0.921			
Internal Communication	COMM1	0.862	0.845	0.904	0.759
	COMM2	0.883			
	COMM3	0.869			
Organizational Readiness	OR1	0.776	0.769	0.866	0.648
	OR2	0.781			
	OR3	0.916			
Consumer Pressure	CONS1	0.819	0.850	0.909	0.770
	CONS2	0.889			
	CONS3	0.921			
Competition Pressure	COMPT1	0.956	0.921	0.950	0.863
	COMPT2	0.929			
	COMPT3	0.901			
Social Media Adoption	SMA1	0.835	0.705	0.833	0.625
	SMA2	0.802			
	SMA3	0.730			

Source: Author

**NOTE:** RA = Relative Advantage, OBS = Observability, INT = Interactivity, COMM = Internal Communication, OR = Organizational Readiness, CONS = Consumer Pressure, COMT= Competition Pressure, SMA= Social Media Adoption.

ty, measured by average variance extracted (AVE), is above 0.5 (Henseler et al., 2012).

Discriminant validity is assessed by examining the correlations' cross-loadings, the Fornell-Larcker criterion, and the heterotrait-monotrait (HTMT) ratio (Hair et al., 2017). The analysis of the cross-loadings showed that the indicator's outer loading is higher than its cross-loadings, so this condition is satisfied. The Fornell-Larcker criterion, as the second approach, shown in Table 3, indicates that the AVE of each latent variable is greater than its highest correlation with another latent variable (Hair et al., 2017). Table 4 shows the HTMT relationships. According to several studies (Ab Hamid et al., 2017; Hair et al., 2017), the HTMT ratio is a more reliable measure of discriminant validity because it can achieve better sensitivity rates. According to Henseler et al. (2012), values above 0.90

indicate a lack of discriminant validity. The data presented in Tables 3 and 4 are all within acceptable ranges and values, indicating that all criteria are met.

In the second phase, the scores of the latent variables of the lower-order constructs are used as indicators of the higher-order constructs in a formative model (Ainin et al., 2014). The outer weights and multicollinearity must be checked to validate the constructs in a formative model (Henseler et al., 2012), presented in Table 5. Although the outer loadings for several items were not within acceptable values, they were left in the model as instructed by Hair et al. (2017). The variance inflation factor (VIF) analysis shows that all formative constructs are within the acceptable range, i.e., below five, so multicollinearity is not a problem (Henseler et al., 2012).

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**TABLE 3. Discriminant Validity: Fornell-Larcker Criterion**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
1. Competition Pressure	0.929							
2. Consumer Pressure	0.774	0.877						
3. Int. Comm	0.497	0.413	0.871					
4. Interactivity	0.676	0.546	0.656	0.918				
5. Observability	0.689	0.603	0.621	0.782	0.910			
6. Org. Readiness	0.398	0.279	0.418	0.482	0.471	0.827		
7. Relative Advantage	0.767	0.619	0.587	0.761	0.807	0.518	0.936	
8. Social Media Adoption	0.430	0.466	0.273	0.272	0.434	0.270	0.326	0.790

Source: Author

**TABLE 4. Discriminant Validity: HTMT ratio**

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
1. Competition Pressure								
2. Consumer Pressure	0.869							
3. Int. Comm	0.561	0.495						
4. Interactivity	0.734	0.616	0.725					
5. Observability	0.752	0.694	0.705	0.857				
6. Org. Readiness	0.459	0.349	0.502	0.583	0.563			
7. Relative Advantage	0.834	0.703	0.652	0.828	0.883	0.600		
8. Social Media Adoption	0.503	0.598	0.321	0.314	0.521	0.339	0.386	

Source: Author

**TABLE 5.** Outer Weights, Outer Loadings, and Multicollinearity

HOC	LOC	Outer Weights	Outer Loadings	VIF	Means
<b>TC</b>	RA	-0.014	0.729	3.278	0.024
	OBS	1.283	0.970	3.559	1.214
	INT	-0.385	0.608	2.940	-0.384
<b>OR</b>	COMM	0.598	0.845	1.211	0.031
	OR	0.589	0.839	1.211	0.579
<b>ER</b>	CONS	0.699	0.974	2.49	0.678
	COMPT	0.356	0.896	2.49	0.355

NOTE: HOC= Higher-Order constructs, LOC= lower-order constructs, RA = Relative Advantage, OBS = Observability, INT = Interactivity, COMM = Internal Communication, OR = Organizational Readiness, CONS = Consumer Pressure, COMT= Competition Pressure, SMA= Social Media Adoption.

**4.2.2. Assessment of the structural model**

Once the reliability and validity of the lower- and higher-order construct measures have been confirmed, the next step involves evaluating the outcomes of the structural model. The results, including standardized path coefficients ( $\beta$ ), mean, standard deviation, t-value, and p-value, are presented in Table 6.

Analysis of the higher-order constructs shows that technological context ( $\beta=0.23$ ,  $p < 0.10$ ) and en-

vironmental context ( $\beta=0.32$ ,  $p < 0.05$ ) have a statistically significant and positive influence on social media adoption. In contrast, organizational context ( $\beta=0.039$ ,  $p=0.713 > 0.10$ ) did not significantly influence social media adoption. The analysis of the lower-order constructs shows that observability ( $\beta=0.453$ ,  $p < 0.05$ ) and consumer pressure ( $\beta=0.295$ ,  $p < 0.10$ ) have a statistically significant positive influence on social media adoption. In contrast, interactivity ( $\beta= -0.275$ ,  $p < 0.10$ ) negatively influences social

**TABLE 6.** Partial Least Square-Structural Equation Modelling (PLS-SEM) results

	Structural relations	Path Coef. ( $\beta$ )	Mean	SD	t-value	p-value	Result
H1	Technological Context → SMA	0.23*	0.222	0.143	1.721	0.085	<b>Supported</b>
H2	Organizational Context → SMA	0.039	0.07	0.106	0.367	0.713	Not supported
H3	Environmental Context → SMA	0.32**	0.337	0.128	2.501	0.012	<b>Supported</b>
H1a	Relative Advantage → SMA	-0.274	-0.266	0.177	1.551	0.121	Not supported
H1b	Observability → SMA	0.453**	0.437	0.181	2.498	0.013	<b>Supported</b>
H1c	Interactivity → SMA	-0.275*	-0.282	0.154	1.781	0.075	Not supported
H2a	Int. Comm → SMA	0.048	0.058	0.136	0.355	0.723	Not supported
H2b	Org. Readiness → SMA	0.149	0.166	0.094	1.579	0.114	Not supported
H3a	Consumer Pressure → SMA	0.295*	0.312	0.153	1.931	0.054	<b>Supported</b>
H3b	Competition Pressure → SMA	0.202	0.198	0.191	1.06	0.289	Not supported

NOTE: \* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$  / SMA= Social Media Adoption.

media adoption. The other constructs have no statistically significant influence on social media adoption.

The structural model is additionally evaluated by estimating the values of the coefficient of determination ( $R^2$ ), predictive relevance ( $Q^2$ ), and effect size ( $f^2$ ) (Pateli et al., 2020). The statistical significance of the ratings is derived from nonparametric bootstrapping with 5000 resamples (Hair et al., 2017). According to Henseler et al. (2012), the values of  $R^2$  are interpreted as weak (0.19), moderate (0.33), or substantial (0.60). The coefficient of determination ( $R^2$ ) in this study is 0.242. It is interpreted as weak, meaning that 24.2% of the variation in social media adoption in SMEs occurred under the influence of TOE elements (Qalati et al., 2021b). The effect size coefficient is calculated based on Cohen's  $f^2$  and interpreted based on the reference values, which means that 0.02 represents a small effect, 0.15 represents a medium effect, and 0.35 represents a large effect of a single exogenous construct on an endogenous construct (Hair et al., 2014). The results show that the effect size  $f^2$  is 0.085 for environmental context, 0.001 for organizational context, and 0.039 for technological context, indicating a weak effect of latent variables at the structural level. The Stone-Geisser value  $Q^2$  is used to evaluate the inner model's predictive significance (Hair et al., 2014). The larger the  $Q^2$  value, the higher the predictive accuracy of the model, with values above 0 indicating the predictive significance of the latent variables (Henseler et al., 2012). Using the blindfolding procedure, the values of  $Q^2$  are extracted, indicating that technological context ( $Q^2=0.437$ ), organizational context ( $Q^2=0.172$ ), environmental context ( $Q^2=0.511$ ), and social media adoption ( $Q^2=0.258$ ) have acceptable predictive relevance.

## 5. DISCUSSION

The primary aim of this study was to identify the factors that influence the adoption of social media within small and medium-sized enterprises in Croatia. By applying the Technology-Organization-Environment model, the study tested seven sub-elements across three independent constructs to identify the factors contributing to social media adoption in SMEs. The first independent variable, technological context (H1), included three variables that formed three sub-hypotheses: relative advantage (H1a), observability (H1b), and interactivity (H1c). The results show that the technological context directly influences social media adoption ( $\beta=0.23$ ,  $p=0.085 < 0.10$ ), confirming hypothesis H1. This conclusion is consistent with the research of Qalati et al. (2021b) and Trawnih et al. (2021) and suggests that one of the primary reasons

for adopting and using social media is its many expected benefits.

Upon analyzing the individual technological factors, the study revealed that relative advantage ( $\beta=-0.274$ ,  $p=0.121 > 0.10$ ) did not exhibit a statistically significant impact on the adoption of social media, which means that hypothesis H1a could not be confirmed. The same conclusion was reached in the study of Ahmad et al. (2018), but it contradicts the results of the study of Pateli et al. (2020). The reason for the result obtained in this study could be that the majority of respondents reported SMEs using social media for over five years, which means they are familiar with its benefits and functionalities. Secondly, the observability ( $\beta=0.453$ ,  $p=0.013 < 0.05$ ) showed a positive and significant influence on social media adoption, confirming hypothesis H1b, which is in line with the results of Samsudeen et al. (2021), but not with the study of Ahmad et al. (2018). The findings indicate that Croatian SMEs can recognize and evaluate the improvements and enhancements that social media brings to their business operations. Consequently, they perceive this factor as highly significant and valuable.

The third technological factor, interactivity, negatively influenced social media adoption ( $\beta = -0.275$ ,  $p=0.075 < 0.10$ ), which means that hypothesis H1c could not be confirmed. The result contradicts Ainin et al.'s (2015) and Qalati et al. (2022) studies. The explanation for this could be that Croatian SMEs mainly publish informative content and spend less than an hour on social media, so they do not use (or know about) all the interactive opportunities offered by SMS.

The relationship between organizational context (H2) and social media adoption is positive but not significant ( $\beta=0.039$ ,  $p=0.713 > 0.10$ ), so the proposed hypothesis was not supported, which is contrary to the studies of Ahmad et al. (2018), Tripopsakul (2018), Pateli et al. (2020), and Samsudeen et al. (2021). It is worth noting that these studies were carried out in the Asian context, while research in the European context is still obsolete and fragmented, so a direct parallel cannot be drawn. When evaluating organizational elements independently, it was found that internal communication did not significantly impact the adoption of social media ( $\beta = 0.048$ ,  $p=0.723 > 0.10$ ), indicating that hypothesis H2a could not be supported. Internal communication has not been extensively addressed in studies of social media adoption, but the research conducted by Garcia-Morales et al. (2011) showed that it influences technological proactivity. One of the possible explanations for the findings in this study could be that SMEs indicated a lack of employees who would spend more time on

social media. Lack of interest in social media at the corporate level was also expressed, meaning that, internally, strategies and tasks related to SM are not discussed very often. Further research should examine the role of internal communications in social media adoption to draw relevant conclusions. The same is true for organizational readiness ( $\beta = 0.149$ ,  $p=0.114 > 0.10$ ), so hypothesis H2b was not supported. Given the lack of studies in this segment, one could draw a parallel with the research of Abed (2020), who showed that organizational readiness positively impacts social commerce adoption.

As for the environmental context (H3), the results showed a positive and significant influence on social media adoption ( $\beta = 0.32$ ,  $p=0.012 < 0.05$ ), confirming the third hypothesis. When analyzing the individual attributes of the environmental context, the results indicated a positive and significant influence of consumer pressure on the adoption of social media. This finding confirms hypothesis H3a ( $\beta = 0.295$ ,  $p=0.054 < 0.10$ ). The data are consistent with the results of similar studies (Tripopsakul, 2018; Ur Rahman et al., 2020; Qalati et al., 2022) and are consistent with the responses in the questionnaire of this study, in which respondents indicated that their main reason for using SM is to communicate with their customers and clients.

On the other hand, competitive pressure ( $\beta = 0.202$ ,  $p=0.289 > 0.01$ ) showed no significant effect on the use of social media in Croatian SMEs, so hypothesis H3b could not be confirmed. The results align with the research of Qalati et al. (2022) but in contrast with the results of Ahmad et al. (2018). One possible explanation for the results of this study could be found in the low adoption rate of social media in Croatian SMEs, so the organizations do not feel compelled or pressured by their competition to establish profiles on multiple SM platforms.

## 6. CONCLUDING REMARKS

Although social media is not a new phenomenon, its adoption at the organizational level still seems very unpredictable. As new technologies emerge, social media platforms are also changing; new ones are constantly emerging, and customers are shifting their attention and preferences to other platforms and channels. Adopting and utilizing social media is a continuous and ongoing process beyond simply creating a profile on a particular social network. It involves consistent engagement, interaction, and content management to build and maintain an effective online presence. The advantages of leveraging social media are vast, and numerous studies have exten-

sively investigated this topic. However, despite the many benefits SMs offer, the usage rate in Croatian SMEs is very low. This study is one of the first in Croatia to investigate the determinants of organizational adoption of social media in SMEs by examining the importance of different elements and integrating them within the TOE model. The findings hold various important theoretical and practical contributions discussed in detail in the following sections.

### 6.1. Theoretical and managerial implications

This study makes several valuable contributions to the existing theory. Firstly, it introduces a comprehensive agenda incorporating multiple factors influencing social media adoption within SMEs. Secondly, the study empirically tests the proposed factors to understand their importance for organizational innovation adoption. Thus, the primary contribution of this study lies in providing novel insights into the elements that influence the adoption of SM among SMEs in Croatia, which further enhances the understanding of the phenomenon within the context of developing countries. This research has shown that technological and environmental factors influence it. In addition, the study improves the understanding of the phenomenon by capturing the current use of social media, perceived benefits, and barriers to more intensive use, thus providing a better understanding of SMEs' current intentions, behaviors, and attitudes toward social media.

From a practical standpoint, these empirical findings are useful to policymakers and key SME stakeholders because they shed light on the elements important to the successful SME adoption of social media. In this way, policymakers can develop targeted policies and regulations that facilitate and streamline the adoption process. Simplifying social media adoption in SMEs can foster their success, positively impacting the country's overall economic growth. For SME stakeholders, the research results point to technological and organizational elements they should consider when adopting social media. More specifically, SMEs will embrace social media when they perceive its potential to enhance business processes (as part of the technological context) or when they experience external pressures, particularly from their customers (environmental context). Social media offer SMEs the ideal means to prioritize their customers, as they provide the possibility for direct communication. This presents an ideal opportunity to gain personal feedback that SMEs can use to improve their products or services but can also improve their brand experience and reputation.

SME leaders should be aware of the additional

benefits that social media could bring to their business, as it can simultaneously support many operational functions. This is practical for SMEs, as their corporate structure often consists of multiple business functions in one department (Stankovska et al., 2016). Since social media is an affordable, user-friendly, and highly interactive tool, SME managers need to focus on developing a viable strategy for managing accounts on social media by making them the dominant success factor of their marketing strategy that can help their businesses grow. In contrast to the current use and adoption of social media, it is advised to develop comprehensive long-term plans to leverage SM's benefits fully. Organizations can optimize their social media efforts and achieve more sustainable results over time by strategizing and defining clear objectives. Having the profiles just because everyone else has them may not result in achieving sales and marketing goals. As this study is the first to empirically examine the use of social media by SMEs in Croatia, it provides a solid starting point for all companies considering the use of social media in Croatia and other developing countries in Europe.

## 6.2. Research limitations and recommendations

The primary limitation of the study is the sample size. Additionally, not all factors influencing social media adoption, such as government pressure, CEO characteristics, top management support, company size, and perceived barriers, were included in the study. This points to the fact that social media adoption is a complex phenomenon that cannot be fully captured by a few constructs alone. Moreover, the study was conducted solely in one country using self-report data through a questionnaire, which may provide only a snapshot of social media adoption and usage. For future studies, it would be useful to conduct research in other EU countries to compare SMEs' use of social media in different markets, especially in developing countries.

The questionnaire as a research tool also has its limitations, such as respondents not understanding the questions or not finding the answer that applies to them (Rowley, 2014). Even though the purpose of the study was explained in the introduction of the questionnaire, there is a possibility that some of the respondents who work in administration may not be directly involved with social media in their organizations. As a result, they might not be able to objectively assess the benefits of adopting social media at the company level. Similarly, there is a possibility that some of the respondents answered the questions based on their personal experiences and attitudes toward social media and thus did not provide an objec-

tive assessment of the organization's activities.

In addition to adding and testing other elements that might influence social media adoption and use, future studies could also examine the impact of social media use on SME performance and strategy formation. In this sense, it would be useful to include case studies that analyze SMEs' social media metrics to see if the quantitative study results reflect the actual state of social media campaigns. It would also be interesting to study network effects on SMA. Since SMEs use networks to share information, knowledge, and technology (Antoldi & Cerrato, 2020), it would be useful to see if networking affects social media adoption. Future research could also highlight the differences between SMEs in different sectors, industries, or product- and service-based SMEs.

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KORIŠTENJE I USVAJANJE DRUŠTVENIH MEDIJA U ORGANIZACIJAMA KROZ OKVIR  
TOE: EMPIRIJSKO ISTRAŽIVANJE NA MALIM I SREDNJIM PODUZEĆIMA U HRVATSKOJ

## SAŽETAK

Rastuća važnost društvenih medija kao alata za komunikaciju i marketing preoblikuje način na koji tvrtke komuniciraju sa svojim klijentima. Unatoč brojnim prednostima, stopa usvajanja društvenih medija ostaje niska među malim i srednjim poduzećima (MSP) u Hrvatskoj. Stoga ova studija ima za cilj prepoznati primarne elemente koji utječu na prihvaćanje društvenih medija od strane malih i srednjim poduzeća (MSP). Istraživanje promatra društvene medije kao tehnološku inovaciju i istražuje njegovu implementaciju unutar Hrvatske, zemlje u razvoju. Koristeći TOE model kao vodeći teorijski okvir, sveobuhvatna agenda istražuje usvajanje društvenih medija unutar tehnološkog, organizacijskog i okolišnog konteksta u kojem MSP djeluju. Istraživanje se oslanja na empirijsku analizu provedenu na 86 anketiranih MSP-a. Primjenom metode PLS-SEM, rezultati su pokazali da tehnološki i okolišni konteksti, kao konstrukti višeg reda, pozitivno i značajno utječu na usvajanje društvenih medija u hrvatskim MSP-ima. Studija je važna jer doprinosi znanju o usvajanju društvenih medija u zemljama u razvoju i usmjerava ključno osoblje u MSP-ima na usvajanje društvenih medija u svojim organizacijama.

**KLJUČNE RIJEČI:** *usvajanje društvenih medija, TOE okvir, mala i srednja poduzeća, zemlje u razvoju, Hrvatska*